

## REMARKS/ARGUMENTS

Claims 1-46 are pending in the present application. The Examiner has rejected claims 1-10, 16, 23-25, 30-32, 35-40, 42-44, and 46. The Examiner has objected to claims 11-15, 17-22, 26-29, 33, 34, 41 and 45. Applicant respectfully requests reconsideration of pending claims 1-46.

The Examiner has rejected claims 1-10, 16, 23-25, 30-32, 35-40, 42-44, and 46 under 35 U.S.C. § 102(e) as being anticipated by Watanabe et al. (U.S. Pub. 2003/0189926). Applicant respectfully disagrees.

Regarding claim 1, Applicant submits Watanabe et al. fail to disclose the claimed invention as set forth in claim 1. For example, Applicant submits Watanabe et al. fail to disclose “establishing the connection in the data communication network, wherein the connection is managed by a control plane.” While the Examiner cites “(Figure 1)” as allegedly teaching such feature, Applicant respectfully disagrees. As a specific example, Applicant can find no reference to “...wherein the connection is managed by a control plane” in Figure 1 of Watanabe et al. Moreover, Applicant can find no reference to “...a control plane” in the cited portion of the Watanabe et al. reference.

As another example, Applicant submits Watanabe et al. fail to disclose “monitoring status of a selected characteristic of the connection using a user connection monitoring function.” While the Examiner cites “[0209] (Figure 23)” as allegedly teaching such feature, Applicant respectfully disagrees. Applicant notes paragraph [0209] of Watanabe et al. merely states, “[0209] In this case, the NMS 1 obtains the connection information associated with the path held by the ATM node B from the ATM node B, by the method described in the fifth embodiment or the sixth embodiment, and stores the information in the path information DB 41.” As a specific example, Applicant can find no teaching of “monitoring status of a selected characteristic of the connection using a user connection monitoring function” in the cited portion of the Watanabe et al. reference. Moreover, Applicant can find no reference to “...using a user connection monitoring function” or even to “...user...” in the cited portion of the Watanabe et al. reference.

As another example, Applicant submits Watanabe et al. fail to disclose “when the status of the selected characteristic is determined to be unacceptable, initiating control plane rerouting of the connection.” While the Examiner cites “[0211] (Figure 23)” as allegedly teaching such feature, Applicant respectfully disagrees. As a specific example, Applicant can find no reference to

“...initiating control plane rerouting of the connection” in the cited portion of the Watanabe reference. Moreover, Applicant can find no reference to “...a control plane” in the cited portion of the Watanabe et al. reference.

For the foregoing reasons, Applicant submits the Watanabe et al. reference fails to anticipate the features set forth in claim 1. Therefore, Applicant submits claim 1 is in condition for allowance.

Regarding claim 2, Applicant submits Watanabe et al. fail to disclose the claimed invention as set forth in claim 2. For example, Applicant submits Watanabe et al. fail to disclose “wherein the selected characteristic includes continuity on the connection.” While the Examiner cites “[0208]” as allegedly disclosing such feature, Applicant respectfully disagrees. Applicant notes paragraph [0208] of Watanabe et al. merely states, “[0208] FIG. 23 is a diagram showing operation example of a path changeover processing in the seventh embodiment. As shown in FIG. 23, in the network NW, when there is only connected a SoftPVC path in which the ATM node A is the call-out node, the ATM node D is the call-in node, and each ATM node B, C is the relay node, it is assumed that maintenance of the transmission line (channel) between the ATM node B and ATM node C becomes necessary.” As a specific example, Applicant can find no reference to “...continuity of the connection” in the cited portion of the Watanabe et al. reference. Thus, Applicant submits claim 2 is in condition for allowance.

Regarding claim 3, Applicant submits Watanabe et al. fail to disclose the claimed invention as set forth in claim 3. For example, Applicant submits Watanabe et al. fail to disclose “wherein the selected characteristic includes at least one of: data corruption on the connection, data loss on the connection, latency along the connection, and misinsertion of data on the connection.” While the Examiner cites “[0208]” as allegedly disclosing such feature, Applicant respectfully disagrees. As a specific example, Applicant can find no reference to “...at least one of: data corruption on the connection, data loss on the connection, latency along the connection, and misinsertion of data on the connection” in the cited portion of the Watanabe et al. reference. Thus, Applicant submits claim 3 is in condition for allowance.

Regarding claim 4, Applicant submits Watanabe et al. fail to disclose the claimed invention as set forth in claim 4. For example, Applicant has presented arguments above for the allowability of claim 1, from which claim 4 depends. Thus, Applicant submits claim 4 is also in condition for allowance.

Regarding claim 5, Applicant submits Watanabe et al. fail to disclose the claimed invention as set forth in claim 5. For example, Applicant submits Watanabe et al. fail to disclose “wherein the control plane is a signaling plane.” While the Examiner cites “[0176]” as allegedly disclosing such feature, Applicant respectfully disagrees. Applicant notes paragraph [0176] of the Watanabe et al. reference merely states, “[0176] A network system according to a fifth embodiment of the present invention will now be described. In the respective first to fourth embodiment, when the call-in node receives the SETUP message from the call-out node, the call-in node connects the path (SoftPVC) by means of a message exchange according to signaling of the SoftPVC. Thereafter, the call-in node transmits the CONNECT ACK message that is a message informing of the path connection completion.” As a specific example, Applicant can find no teaching in paragraph [0176] of the Watanabe et al. reference that would disclose “wherein the control plane is a signaling plane” in a manner consistent with the Examiner’s assertion as to the alleged teaching of Watanabe et al. with respect to a “control plane” as set forth by the Examiner in the rejection of claim 1, from which claim 5 depends. Also, Applicant can find no reference to “...the control plane is a signaling plane...,” “...control plane...,” or “...signaling plane...” in the cited portion of the Watanabe reference. Thus, Applicant submits claim 5 is in condition for allowance.

Regarding claim 6, Applicant submits Watanabe et al. fail to disclose the claimed invention as set forth in claim 6. For example, Applicant submits Watanabe et al. fail to disclose “wherein the signaling plane uses private network-to-network interface (PNNI).” While the Examiner cites “[0007]” as allegedly disclosing such feature, Applicant respectfully disagrees. Applicant notes paragraph [0007] of the Watanabe reference merely states, “[0007] Recently, as one of new connections, there is SoftPVC. The SoftPVC is recommended in the ITU-T Q.2961 or in the Private Network-Network Interface Specification Version 1.0 (PNNI 1.0) of the ATM Forum Technical Committee.” As a specific example, Applicant can find no reference to “...the signaling plane...” in the cited portion of the Watanabe et al. reference. Thus, Applicant submits claim 6 is in condition for allowance.

Regarding claim 7, Applicant submits Watanabe et al. fail to disclose the claimed invention as set forth in claim 7. For example, Applicant submits Watanabe et al. fail to disclose “wherein the connection is a soft permanent virtual connection (SPVC).” Applicant has presented arguments above for the allowability of claims 1, 4, 5, and 6, from which claim 7 depends. Thus, Applicant submits claim 7 is also in condition for allowance.

Regarding claim 8, Applicant submits Watanabe et al. fail to disclose the claimed invention as set forth in claim 8. For example, Applicant submits Watanabe et al. fail to disclose “wherein the connection is a switched connection.” While the Examiner cites “[0054]” as allegedly disclosing such feature, Applicant respectfully disagrees. Applicant notes paragraph [0054] of the Watanabe et al. reference merely states, “[0054] FIG. 1 is a diagram showing an example of a network construction of a network system according to an embodiment of the present invention. In FIG. 1, the network NW is an ATM network, and has ATM nodes (switching stations) A to E.” As a specific example, while Watanabe et al. recite “...ATM nodes (switching stations)...,” Applicant can find no specific teaching of “wherein the connection is a switched connection” in the cited portion of the Watanabe et al. reference. Thus, Applicant submits claim 8 is in condition for allowance.

Regarding claim 9, Applicant submits Watanabe et al. fail to disclose the claimed invention as set forth in claim 9. For example, Applicant submits Watanabe et al. fail to disclose “wherein the user connection monitoring function utilizes operation and management (OAM) cells.” While the Examiner cites “[0226]” as allegedly disclosing such feature, Applicant respectfully disagrees. Applicant notes paragraph [0226] of Watanabe et al. merely states “[0226] Conventionally, when a maintenance work of the relay channel is performed, the following processing has been performed. That is to say, the concerned channel is made to a failure state or maintenance blockage state. As a result, a node accommodating the concerned channel detects the channel failure, thereby an OAM cell such as VC-AIS is automatically given to the call-out node with respect to the connection accommodated in the concerned channel, and the call-out node resets the path in a route bypassing the channel where a failure has been detected.” As a specific example, while Watanabe et al. recite “...an OAM cell such as VC-AIS is automatically given to the call-out node with respect to the connection accommodated in the concerned channel,” Applicant can find no reference in the cited portion of “...the user connection monitoring function....” Thus, Applicant submits claim 9 is in condition for allowance.

Regarding claim 10, Applicant submits Watanabe et al. fail to disclose the claimed invention as set forth in claim 10. For example, Applicant submits Watanabe et al. fail to disclose “wherein the user connection monitoring function includes OAM continuity checking.” While the Examiner cites “[0226]” as allegedly disclosing such feature, Applicant respectfully disagrees. As a specific example, while Watanabe et al. recite “...an OAM cell such as VC-AIS is automatically given to the call-out node with respect to the connection accommodated in the concerned channel,” Applicant can find no

reference in the cited portion of "...the user connection monitoring function...." As another example, Applicant can find no reference to "OAM continuity checking." Thus, Applicant submits claim 10 is in condition for allowance.

Regarding claim 16, Applicant submits Watanabe et al. fail to disclose the claimed invention as set forth in claim 16. For example, Applicant submits Watanabe et al. fail to disclose "wherein initiating control plane rerouting of the connection further comprises initiating a hard reroute." While the Examiner cites "(Figure 25)" as allegedly disclosing such feature, Applicant respectfully disagrees. As a specific example, Applicant can find no reference in Fig. 25 of Watanabe et al. to "...initiating control plane rerouting...." As another example, Applicant can find no reference in Fig. 25 of Watanabe et al. to "...initiating a hard reroute...." Thus, Applicant submits claim 16 is in condition for allowance.

Regarding claim 23, Applicant submits Watanabe et al. fail to disclose the claimed invention as set forth in claim 23. For example, Applicant submits Watanabe et al. fail to disclose "a destination node operably coupled to the source node via a first connection that carries a data stream, wherein the source node injects diagnostic traffic into the data stream, wherein the destination node monitors the diagnostic traffic in the data stream." While the Examiner cites "(A in Figure 23)," which is identified in Fig. 23 of Watanabe et al. as "A: CALL-OUT NODE," as allegedly teaching "a source node," "(D in Figure 23)" as allegedly teaching "a destination node," and "[0226]" as allegedly teaching "wherein the source node injects diagnostic traffic into the data stream, Applicant notes paragraph [0226] of Watanabe et al. merely states "[0226] Conventionally, when a maintenance work of the relay channel is performed, the following processing has been performed. That is to say, the concerned channel is made to a failure state or maintenance blockage state. As a result, a node accommodating the concerned channel detects the channel failure, thereby an OAM cell such as VC-AIS is automatically given to the call-out node with respect to the connection accommodated in the concerned channel, and the call-out node resets the path in a route bypassing the channel where a failure has been detected." Thus, to whatever extent the Examiner considers "an OAM cell such as VC-AIS" to teach "diagnostic traffic," Applicant submits Watanabe teaches "an OAM cell such as VC-AIS is automatically *given to* the call-out node [emphasis added]," not "wherein the source node injects diagnostic traffic into the data stream." Thus, Applicant submits claim 23 is in condition for allowance.

Regarding claim 24, Applicant submits Watanabe et al. fail to disclose the claimed invention as set forth in claim 24. For example, Applicant submits Watanabe et al. fail to disclose "wherein the

data stream includes a plurality of asynchronous transfer mode (ATM) cells.” Applicant has presented arguments above for the allowability of claim 23, from which claim 24 depends. Thus, Applicant submits claim 24 is also in condition for allowance.

Regarding claim 25, Applicant submits Watanabe et al. fail to disclose the claimed invention as set forth in claim 25. For example, Applicant submits Watanabe et al. fail to disclose “wherein the diagnostic traffic includes operation and management (OAM) continuity checking cells.” While the Examiner cites “[0226]” as allegedly disclosing such feature, Applicant respectfully disagrees. As a specific example, as Applicant noted with respect to the rejection of claim 23, Applicant submits the teaching of paragraph [0226] of the Watanabe et al. reference appears to contradict the Examiner’s assertions with respect to “...diagnostic traffic....” Thus, Applicant submits the Examiner’s assertion with respect to claim 25 is also contradicted. Moreover, Applicant can find no reference to “...continuity checking cells” in the cited portion of the Watanabe et al. reference. Thus, Applicant submits claim 25 is in condition for allowance.

Regarding claim 30, Applicant submits Watanabe et al. fail to disclose the claimed invention as set forth in claim 30. Applicant has presented arguments above for the allowability of claims 23 and 24, from which claim 30 depends. Thus, Applicant submits claim 30 is also in condition for allowance.

Regarding claim 31, Applicant submits Watanabe et al. fail to disclose the claimed invention as set forth in claim 31. For example, Applicant submits Watanabe et al. fail to disclose “wherein the first and second connections are switched connections.” While the Examiner cites “[0054]” as allegedly disclosing such feature, Applicant respectfully disagrees. Applicant notes paragraph [0054] of the Watanabe et al. reference merely states, “[0054] FIG. 1 is a diagram showing an example of a network construction of a network system according to an embodiment of the present invention. In FIG. 1, the network NW is an ATM network, and has ATM nodes (switching stations) A to E.” As a specific example, while Watanabe et al. recite “...ATM nodes (switching stations)...,” Applicant can find no specific teaching of “wherein the first and second connections are switched connections” in the cited portion of the Watanabe et al. reference. Thus, Applicant submits claim 31 is in condition for allowance.

Regarding claim 32, Applicant submits Watanabe et al. fail to disclose the claimed invention as set forth in claim 32. For example, Applicant submits Watanabe et al. fail to disclose “wherein the

control block establishes the second connection as a part of a hard reroute.” While the Examiner cites “(Figure 25)” as allegedly disclosing such feature, Applicant respectfully disagrees. As a specific example, Applicant can find no reference in Fig. 25 of Watanabe et al. to “wherein the control block establishes the second connection as a part of a hard reroute.” Thus, Applicant submits claim 32 is in condition for allowance.

Regarding claim 35, Applicant submits Watanabe et al. fail to disclose the claimed invention as set forth in claim 35. For example, Applicant submits Watanabe et al. fail to disclose “wherein the selected characteristic includes at least one of: data corruption on the first connection, data loss on the first connection, latency along the first connection, and misinsertion of data on the first connection.” While the Examiner cites “[0208]” as allegedly disclosing such feature, Applicant respectfully disagrees. As a specific example, Applicant can find no reference to “...at least one of: data corruption on the first connection, data loss on the first connection, latency along the first connection, and misinsertion of data on the first connection” in the cited portion of the Watanabe et al. reference. Thus, Applicant submits claim 35 is in condition for allowance.

Regarding claim 36, Applicant submits Watanabe et al. fail to disclose the claimed invention as set forth in claim 36. For example, Applicant submits Watanabe et al. fail to disclose “using operation and management (OAM) cells to monitor at least one characteristic of the connection” in the cited portion of the Watanabe et al. reference. While the Examiner cites “[0226]” as allegedly disclosing such feature, Applicant respectfully disagrees. As a specific example, Applicant notes paragraph [0226] of Watanabe et al. merely states “[0226] Conventionally, when a maintenance work of the relay channel is performed, the following processing has been performed. That is to say, the concerned channel is made to a failure state or maintenance blockage state. As a result, a node accommodating the concerned channel detects the channel failure, thereby an OAM cell such as VC-AIS is automatically given to the call-out node with respect to the connection accommodated in the concerned channel, and the call-out node resets the path in a route bypassing the channel where a failure has been detected.” Thus, Applicant submits Watanabe merely teaches “an OAM cell such as VC-AIS is automatically given to the call-out node,” not “using operation and management (OAM) cells to monitor at least one characteristic of the connection.”

As another example, Applicant submits Watanabe et al. fail to disclose “when status of the at least one characteristic is determined to be unacceptable, initiating control plane rerouting of the connection.” While the Examiner cites “[0211] (Figure 23)” as allegedly disclosing such feature,

Applicant respectfully disagrees. Applicant notes paragraph [0211] of the Watanabe et al. reference merely states, “[0211] Then, the manager inputs an instruction to change the currently connected route “ATM node A ATM node B ATM node C→ATM node D” to the alternative route of “ATM node A→ATM node E→ATM node D” to the NSM 1.” Applicant can find no reference to the “OAM cell such as VC-AIS” that the Examiner alleges to be used “to monitor at least one characteristic of the connection” in the cited portion of the Watanabe et al. reference. Thus, Applicant submits the cited portion of the Watanabe et al. reference fails to disclose “when the status of the at least one characteristic is determined to be unacceptable.” Therefore, Applicant submits claim 36 is in condition for allowance.

Regarding claim 37, Applicant submits Watanabe et al. fail to disclose the claimed invention as set forth in claim 37. Applicant has presented arguments above for the allowability of claim 36, from which claim 37 depends. Thus, Applicant submits claim 37 is also in condition for allowance.

Regarding claim 38, Applicant submits Watanabe et al. fail to disclose the claimed invention as set forth in claim 38. Applicant has presented arguments above for the allowability of claim 36, from which claim 38 depends. Thus, Applicant submits claim 38 is also in condition for allowance.

Regarding claim 39, Applicant submits Watanabe et al. fail to disclose the claimed invention as set forth in claim 39. For example, Applicant submits Watanabe et al. fail to disclose “wherein the control plane is a signaling plane.” While the Examiner cites “[0176]” as allegedly disclosing such feature, Applicant respectfully disagrees. Applicant notes paragraph [0176] of the Watanabe et al. reference merely states, “[0176] A network system according to a fifth embodiment of the present invention will now be described. In the respective first to fourth embodiment, when the call-in node receives the SETUP message from the call-out node, the call-in node connects the path (SoftPVC) by means of a message exchange according to signaling of the SoftPVC. Thereafter, the call-in node transmits the CONNECT ACK message that is a message informing of the path connection completion.” As a specific example, Applicant can find no teaching in paragraph [0176] of the Watanabe et al. reference that would disclose “wherein the control plane is a signaling plane” in a manner consistent with the Examiner’s assertion as to the alleged teaching of Watanabe et al. with respect to a “control plane” as set forth by the Examiner in the rejection of claim 36, from which claim 39 depends. Also, Applicant can find no reference to “...the control plane is a signaling plane...,” “...control plane...,” or “...signaling plane...” in the cited portion of the Watanabe reference. Thus, Applicant submits claim 39 is in condition for allowance.



Regarding claim 40, Applicant submits Watanabe et al. fail to disclose the claimed invention as set forth in claim 40. For example, Applicant submits Watanabe et al. fail to disclose “wherein the signaling plane uses private network-to-network interface (PNNI).” While the Examiner cites “[0007]” as allegedly disclosing such feature, Applicant respectfully disagrees. Applicant respectfully disagrees. Applicant notes paragraph [0007] of the Watanabe reference merely states, “[0007] Recently, as one of new connections, there is SoftPVC. The SoftPVC is recommended in the ITU-T Q.2961 or in the Private Network-Network Interface Specification Version 1.0 (PNNI 1.0) of the ATM Forum Technical Committee.” As a specific example, Applicant can find no reference to “...the signaling plane...” in the cited portion of the Watanabe et al. reference. Thus, Applicant submits claim 40 is in condition for allowance.

Regarding claim 42, Applicant submits Watanabe et al. fail to disclose the claimed invention as set forth in claim 42. For example, Applicant submits Watanabe et al. fail to disclose “detecting a fault in the connection in the user plane.” As a specific example, Applicant cannot find reference in the cited portion of the Watanabe et al. reference of “detecting a fault in the connection in the user plane” or even “...user plane.”

As another example, Applicant submits Watanabe et al. fail to disclose “triggering a reroute of the connection in the control plane based on the fault detected.” As a specific example, Applicant cannot find reference in the cited portion of the Watanabe et al. reference of “triggering a reroute of the connection in the control plane based on the fault detected” or even “...control plane...” Thus, Applicant submits claim 42 is in condition for allowance.

Regarding claim 43, Applicant submits Watanabe et al. fail to disclose the claimed invention as set forth in claim 43. For example, Applicant submits Watanabe et al. fail to disclose “wherein detecting a fault further comprises detecting a fault using operation and management (OAM) services running within the user plane.” While the Examiner cites “[0226]” as allegedly disclosing such feature, Applicant respectfully disagrees. As a specific example, Applicant cannot find reference in the cited portion of the Watanabe et al. reference of “...using operation and management (OAM) services running within the user plane” or even “...user plane.” Thus, Applicant submits claim 43 is in condition for allowance.

Regarding claim 44, Applicant submits Watanabe et al. fail to disclose the claimed invention as set forth in claim 44. Applicant has presented arguments above for the allowability of claims 42 and

43, from which claim 44 depends. Thus, Applicant submits claim 44 is also in condition for allowance.


Regarding claim 46, Applicant submits Watanabe et al. fail to disclose the claimed invention as set forth in claim 46. For example, Applicant submits Watanabe et al. fail to disclose "wherein triggering a reroute further comprises triggering a hard reroute." While the Examiner cites "(Figure 25)" as allegedly disclosing such feature, Applicant respectfully disagrees. As a specific example, Applicant can find no reference in Fig. 25 of Watanabe et al. to "...triggering a reroute further comprises triggering a hard reroute." As a more specific example, Applicant can find no reference in Fig. 25 of Watanabe et al. to "...triggering a hard reroute...." Thus, Applicant submits claim 46 is in condition for allowance.

The Examiner has objected to claims 11-15, 17-22, 26-29, 33, 34, 41, and 45 but states they would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Applicant has presented reasons for the allowability claims from which the objected claims depend. Accordingly, Applicant submits the objected claims are also in condition for allowance.

In conclusion, Applicant has overcome all of the Office's rejections, and early notice of allowance to this effect is earnestly solicited. If, for any reason, the Office is unable to allow the Application on the next Office Action, and believes a telephone interview would be helpful, the Examiner is respectfully requested to contact the undersigned attorney.

Respectfully submitted,

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Date

  
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